

**REMARKS**

In the Office Action claims 17-20 and 25-28 were rejected. Applicants have amended claims 17 and 25 and added new claims 29 and 30. Upon entrance of this Amendment claims 17-20 and 25-30 will be pending in the present application. Reconsideration is respectfully requested.

On page 2 of the Office Action, the Examiner rejected claim 17 under 35 U.S.C. § 101 as claiming the same invention as that of claim 1 of U.S. Patent No. 6,638,175. In light of Applicants' amendment to claim 1, Applicants respectfully submit that the double patenting rejection has been overcome.

**Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 17, 19 and 25-28 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,792,863 to Evans in view of U.S. Patent No. 4,940,236 to Allen. Dependent claims 18, 20 and 28 were rejected as being obvious over Evans and Allen and further in view of U.S. Patent No. 5,472,205 to Bouton. Applicants respectfully disagree.

Independent claim 17, as amended, recites a diagnostic golf club system comprising in part a diagnostic golf club and a computer, the diagnostic golf club including "an internal memory device...capable of storing data for multiple swings of the diagnostic golf club until the data is uploaded to the computer via the interface mechanism," and the computer "us[ing] the data related to the diagnostic golf club during a golf swing to calculate six independent forces and moments, the six independent forces and moments including axial force, transverse shear forces, bending moments, and torsion." The invention of claim 17 provides a diagnostic golf club system that is capable of storing in or on the golf club swing data obtained by the strain gauges on the golf club. The data is stored in or on the golf club until the data is transferred, via

an interface mechanism, to a separate computer. This diagnostic golf club system is more flexible, since a user swinging the diagnostic golf club need not be anywhere near the computer for multi-swing data capture to occur. Once the data has been uploaded to the computer, the computer processes the data to calculate six independent forces and moments (axial force, transverse shear forces, bending moments and torsion).

Applicants respectfully submit that no combination of Evans and Allen would make obvious the invention of claim 17. Evans discloses an athletic swing measurement system that uses radio or wire means to immediately transmit data from the athletic apparatus to a remote recording or playback console, where it is then stored apart from the athletic apparatus. Allen discloses a golf club with a self-contained ball distance computer, including a holding stage that holds a DC level signal for eight seconds, during which the total yardage traveled by an impacted golf ball is displayed. See Allen, col. 5, lines 25-26 and col. 8, lines 54-56. The Allen holding stage cannot “stor[e] data for multiple swings of the diagnostic golf club until the data is uploaded to the computer via the interface mechanism,” as recited in claim 17. Instead, the Allen golf club briefly stores distance information for a single golf club swing. After each swing the Allen golf club displays the impacted golf ball’s distance for eight seconds, before the holding stage is reset and that signal permanently eliminated. See Allen, col. 9, lines 26-30. Applicants respectfully submit that there is no motivation to add Allen’s memory/holding stage to the Evans system, since an eight-second holding stage would be insufficient to store the velocity, angular momentum and flexure data gathered by the Evans system for even a single swing of the golf club, and since Evans’ use of RF transmitters and the off-apparatus recording/playback console teach away from the need to have an internal memory device on the golf club itself.

In addition to the lack of an internal memory capable of storing multi-swing data on the golf club, neither Evans nor Allen discloses a computer that “uses the data related to the diagnostic golf club during a golf swing to calculate six independent forces and moments, the six independent forces and moments including axial force, transverse shear forces, bending moments, and torsion,” as recited in claim 17. The Evans system merely acquires and displays on an oscilloscope graphs of the outputs of an accelerometer, torque gage and flex gage versus time. See Evans, col. 4, lines 6-50. The Evans system does not manipulate the outputs of the accelerometer, torque gage or flex gage to calculate axial force, transverse shear forces, bending moments or torsion. The Allen golf club uses the compression signal from a transducer 16 to determine a golf ball velocity and then calculate golf ball distance. Allen, like Evans, does not disclose calculating six independent forces and moments. Accordingly, no combination of Evans and Allen would make obvious a diagnostic golf club system with a computer that uses golf club swing data to calculate axial force, transverse shear forces, bending moments and torsion. Applicants respectfully submit that independent claim 17 and its dependent claims 18-20 are patentable over Evans and Allen.

Amended independent claim 25 recites a diagnostic golf club system comprising in part a diagnostic golf club and a computer, the diagnostic golf club including “an internal memory device...capable of storing multiple swing load measurements indicative of multiple golf swings until the measurements are transferred by the transferring means to the computer,” and the computer “us[ing] the swing load measurements to calculate six independent forces and moments, the six independent forces and moments including axial force, transverse shear forces, bending moments, and torsion.” Both limitations are similar to those discussed above with

respect to independent claim 17. Thus, independent claim 25 and its dependent claims 26-28 are also patentable over Evans and Allen.

New Claims 29 and 30

Applicants have added new claims 29 and 30. Support for these claims may be found throughout the specification, particularly in paragraphs 63, 72 and 74, and in the drawings. No new matter has been added. Claims 29 and 30 depend from claims 17 and 25, respectively, and are also patentable over the cited prior art. Each of claims 29 and 30 further specifies that the computer processes the six independent forces and moments to determine an appropriate shaft flex profile for an individual golfer. Neither Evans nor Allen discloses a computer that determines the appropriate shaft flex profile for an individual golfer. Thus, dependent claims 29 and 30 are further patentable over the cited prior art.

In view of the foregoing remarks, Applicants respectfully submit that each of the outstanding rejections has been overcome and that claims 17-20 and 25-30 are in condition for allowance. A Notice of Allowance is respectfully requested. The Examiner is invited to telephone Applicants' Attorney, if such would advance the prosecution of this case.

Respectfully submitted,

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